SUMMARY OF THE
FIELD MEASUREMENTS *AD HOC* COMMITTEE MEETING
DECEMBER 14, 1999

The Field Measurements *ad hoc* Committee of the National Environmental Laboratory Accreditation Conference (NELAC) met on Tuesday, December 14, 1999, at 1 p.m. Eastern Standard Time (EST) as part of the Fifth NELAC Interim Meeting in Washington, DC. The meeting was led by its chair, Dr. Barton Simmons of the California Environmental Protection Agency (CA/EPA). A list of action items is given in Attachment A. A list of participants is given in Attachment B. *The purpose of the meeting was to discuss committee activities since the last meeting and to prepare recommendations for the standing Field Activities Committee which will begin meeting in January 2000.*

INTRODUCTION

Dr. Simmons opened the meeting at 1 p.m. and presented a brief history of the *ad hoc* committee and how it is in transition to a standing committee to be called the Field Activities Committee. The *ad hoc* committee's mission is to provide information and recommendations to the new standing committee. Committee members introduced themselves and the meeting ground rules were reviewed. Results of past surveys have shown an interest for sampling and field measurement standards but little interest in certification of individuals. A committee white paper showed errors often occur in the sampling process, and less frequently in the laboratory process. The Environmental Laboratory Advisory Board (ELAB) has reviewed the white paper and is concerned that more stakeholders for field measurements standards be identified and invited to participate in standards development. Today's meeting will concentrate mainly on measurement of source emissions (MSE).

TOPICS OF DISCUSSION

International Standards Organization (ISO) 17025

The chair stated there is support for using international standards, and recommended that language from the international standard, ISO 17025, be used in creating the field sampling standard for NELAC. He also recommended that the standing committee have this as an early agenda item.

Comments on ISO 17025

The request for more information on ISO 17025 was made. Although the standard is not yet published, it is thought to be available as a draft on the National Institute of Standards and Technology's (NIST) Website.

ISO Guide 25

Another participant asked for clarification on ISO Guide 25. It will be limited to laboratories accredited by NELAC. The question was raised as to whether or not the "payoff" for field

standards would be sufficient to justify the effort. Soil, water, or waste sampling is often done by firms that are not laboratories. It was suggested that, when taking samples, a requirement that laboratories be required to follow NELAC guidelines be included. This does however, put an added impediment before the laboratories. As a solution to this, the laboratories could require field samplers to put details of proper sampling procedures in their Quality Assurance Project Plans (QAPPs). The question was raised if anyone doing testing also falls within the scope of NELAC. It was pointed out that auditors often visit and check the sampling personnel to ensure they are following the U.S. Environmental Protection Agency's (USEPA) Office of Solid Waste (OSW) Method (SW846) and other methods. A concern was expressed that a NELAC (NELAP) field measurements process could possibly become overly burdensome to both small and large firms who are already following guidelines and are audited to ensure compliance. A participant from South Carolina noted that the Carolinas' Air Pollution Control Association, when informed of NELAC discussions, said the first order of business for a field activities committee should be to resolve questions about what a laboratory is or is not. Chairman Simmons stated that field activities clearly fall within the scope of NELAC.

Recommendation

It was proposed that the recommendation be made that ISO 17025 be followed for NELAC laboratories and that the ISO-worded recommendation also be offered as guidelines for non-NELAC organizations.

Field Standards and Sample Matrices

Dr. Simmons asked for further input and recommendations for field standards and sampling matrices. Source emissions measurements have already been advanced as a priority.

Ambient Air Sampling

The question was raised if ambient air sampling was a priority, especially now that the new $PM_{2.5}$ particulate matter standard has been promulgated. Mr. Dan Bivins, USEPA, will again request expressions of interest from USEPA's Office of Air and Radiation (OAR). A participant noted that some who are taking $PM_{2.5}$ measurements are not experts. Using the data from these measurements, control measures are being taken that may be quite costly. This points up the need for obtaining the best data possible. The chair recommended that one or more states conduct another survey of NELAC membership and USEPA program offices to see what they feel is needed.

Drinking Water and Wastewater Sampling

A participant asked if drinking water and wastewater sampling would eventually come under NELAP and require accreditation. A concern was raised as to whether this would necessitate the laboratories having to educate the sampling personnel. The question was also raised as to whether or not separate performance testing would be required at the field sampling site. A requirement such as this would depend on a state's decision and the actual language of its law. In California, measurements such as pH and dissolved oxygen would not require accreditation.

NELAC standards are designed primarily for measurements made for compliance purposes. In response to why NELAC Standards are not taken through the public comments process, it was pointed out that NELAC Standards are not rules and that states choosing to use NELAC Standards must set up their own rules and laws.

Field Screening Methods

Another participant asked if the committee planned to take up field screening methods and it was stated that the answer would be yes, if data are used for compliance purposes. Immunoassay tests may be included. Dr. Ken Jackson of the New York State Department of Health, emphasized that for some states, NELAP data can be used for more than compliance. Anything concerning public health, for instance, is a potential use.

Accredited versus Non-accredited

A participant remarked that NELAP accreditation may influence buyers' choice of a bid, i.e., those accredited will be chosen over those not accredited.

Time Frame

It was asked if the committee would recommend a time frame for completing NELAC field sampling standards. Even though ISO 17025 is to be released soon, it will take two years to fully ratify. Because of this, Dr. Simmons feels that NELAC standards should proceed sooner. It was pointed out by a participant that changes in laboratory operations take some time and perhaps the time frame be set so all laboratories or sampling firms have a year or more to attain full implementation. Dr. Jackson stated the NELAC Board of Directors has talked more about priorities than schedules. Field measurements (made with gas chromatography [GC], gas chromatography/mass spectrometry [GC/MS], infrared (IR), and so on) should be the next priority, to be followed by the sampling process itself since it involves a new set of participants. It was emphasized that the standing committee will still have to deal with the definition of a laboratory. Some samplers must be calibrated on-site, such as immunoassay procedures and x–ray fluorescence (XRF), and so on. It was also pointed out that problems would probably occur when samples are received that do not comply with NELAC standards for preservation (temperature, pH, and so on). This could lead to many rejections and could cause a great deal of concern. It was requested that the committee revisit the current NELAC standards with respect to field sampling activities. Dr. Simmons indicated the standing committee should look at the existing standards to define whether accreditation should go with the laboratory organization or with the temporary location.

Update on Measurement of Source Emissions (MSE)

Mr. Bivins described where the committee is with respect to measurement of source emissions and some of the problems encountered. He showed overhead slides of Draft - Appendix A - Accreditation and Qualification Criteria for Measurements of Source Emissions (MSE) and he gave the history of MSE and highlights of two recent surveys.

Mr. John Hosenfeld highlighted topics from the MSE draft standard. The draft standard was adapted from other NELAC standards and draws information and language from ISO Guides 25 and 17025 (for laboratories, including field activities) and several other sources. Highlights of the MSE Standard include: (1) pre-assessment review (the application package), (2) proficiency testing, (3) on-site assessment, (4) quality system, and (5) qualifications (i.e., experience and/or education and knowledge examinations). A collection of comments on the MSE was distributed. The comments indicate that states and source testers favor some kind of accreditation and qualification. MSE issues to pass on to the new committee include soliciting continued input from affected parties and continuing education in MSE.

Comments on Presentations

- A participant stated that some states are disappointed with the way the source standards are developing and he questioned the extent of problems with source or stack testing. The issue of quality should reside with the states, not with an accrediting authority. If MSE data do not meet a particular state's standards, the data can always be refused. An accreditation program would not solve the quality problems.
- Another question was why are the existing quality requirements associated with each test method inadequate to control the quality? Is there really a problem and, if so, how will a new overlay of standards help? Surveys do indicate problems with MSE data. Although accreditation does not guarantee good data, it does help provide better data and will provide a mechanism for training.
- A participant recommended using method groups and would like to see the idea appear in other chapters of the NELAC Standards.
- In response to the question as to whether field audits would continue, the answer was yes. As far as standard operating procedures (SOPs) are concerned, if deviations from a method are employed, the basic method SOP can be used and addenda attached to explain the deviations.
- It was also noted that the state observers are often new or inexperienced persons who need additional training. It was noted that if additional training and/or education are really needed, something simpler and less expensive should be put together.
- It was suggested that any voting on the field standards be delayed until after the Sixth NELAC Annual Meeting in June 2000, as much more work is needed. The focus now needs to be more on what the states can do to enhance data quality, and then use the NELAC Standards to fill in the gaps.
- The use of methods grouping caused some concern and the question of how performance-based measurement systems (PBMS) for field standards fit into the picture, was raised. The concern was that the committee needed to be sure NELAC is not actually encouraging the continued use of reference methods, thus losing flexibility in the use of new methods. It was suggested that the committee wait until after PBMS is implemented before making any decisions. A participant also suggested that the committee utilize the evaluation criteria that the Quality Systems committee has set.

Personnel Qualifications

With regards to the topic of qualifications for personnel, Dr. Simmons replied that a training program would improve the abilities and knowledge of field personnel as well as state observers or assessors. The following comments were expressed:

- One participant noted this could be a significant cost to small laboratories. Again, it would depend on what the individual states decide.
- The observation was made that the assessor would have to be paid and insured by the firm being observed. Another participant spoke of the amount of money required to to apply and be assessed in his state. The cost would be in the realm of $2,000 plus the costs associated with creating and maintaining forms and documents. If that particular state was chosen as the accrediting authority for an out-of-state firm, the costs of the assessment team's travel and per diem would be charged to the firm seeking accreditation. Dr. Simmons thinks these fees may be typical for most accrediting agencies. However, a larger firm may have to have personnel in a number of locations to be accredited and the costs would rise. One participant proposed that the figure of $100,000 was more realistic. Corrective action, retraining, and so on, can raise costs markedly.
- A participant suggested that any attempts to certify individuals be abandoned. Certified individuals move from one job to another and newer persons have to be brought on in a constant replacement mode, with no net benefit to the company involved. Practice and experience make for quality data, not a certification.
- The data quality objectives (DQO) process is important. People need training in statistics and how to compute precision and accuracy. The statement was made that NELAC is in fact trying to encourage training and increase experience and knowledge. In response to a query on one company’s training program, the company representative stated that they use a book study course at first, then a progression of on-the-job training under the observation of senior personnel. The representative further stated that he believes the solution lies with the states. They can decide on what procedures and quality are required, and if it is not observed, the data can be refused, and the testing can even be shut down. A participant stated that it was the responsibility of the sampling firm to select good personnel and ensure that they are doing the job right. The sampling firm must establish an atmosphere of quality. Ms. Jeanne Mourrain, USEPA, stated that the NELAC goal is to accredit organizations, not individual, and that the committee should carefully review the standards in regards to field personnel. Dr. Simmons will ask for a meeting with the NELAC Board of Directors to clarify directions and semantics. A participant stated that the sampling organization should be required to be responsible for ensuring its employees are trained and qualified. Another participant suggested that the committee should look to Chapter 5 of the NELAC Standards for guidance and consistency. Chapter 5 states that the laboratory organization is responsible for ensuring the quality of its personnel.

NEXT STEPS

Dr. Simmons asked that comments on today's meeting topics be mailed or e-mailed to him. A recommendation will be made to the standing committee that a subcommittee be formed to study source emission measurements. The Board of Directors must approved formation of such a subcommittee and there are no strict criteria for the subcommittee's makeup. It was also

recommended that a subcommittee be formed to begin looking at the sampling process, but with the caveat that the activities of the sampling subcommittee should not detract from other committee missions. The issue of "front end" sampling still needs to be addressed. However, NELAC may not the forum for doing this. The statement was made that uncertainties in sampling are certainly larger than errors occurring in the laboratory and we (NELAC) must work on them. The issues of timing, deadlines for applications, and the release of the first wave of accredited laboratories are presently being dealt with from the laboratory perspective. One final issue that needs further investigation is the issue of liability.

ADJOURNMENT

Dr. Simmons adjourned the meeting at 5 p.m.

Attachment A

ACTION ITEMS
FIELD MEASUREMENTS *AH HOC* ACTIVITIES COMMITTEE MEETING
DECEMBER 14, 1999

Item No.	Action	Date to be Completed
1.	Dr. Simmons to set up joint meetings (by teleconference) of the *ad hoc* and standing field committees. Schedule for Thursday January 13, and Thursday February 17, 2000	Prior to meeting dates
2.	Dr. Simmons is to recommend to Field Activities standing committee that one of the states conduct another survey of NELAC and the program offices regarding field activities priorities and needs.	Prior to January 13, 2000
3.	Committee is to define the meaning of testing at temporary locations.	January 2000
4.	Dr. Simmons will recommend to standing committee chair that subcommittees on source emission measurements and sampling be established.	January 2000
5.	Dr. Simmons will distribute copies of Guiding Principles/Review Criteria to those interested.	January 2000
6.	Committee will revisit the idea of qualifications for individuals. Dr. Simmons will request a meeting with the NELAC Board of Directors to clarify directions and semantics with regards to this issue.	January 2000
7.	Committee will investigate the issue of liability for when assessors visit sampling sites.	January 2000
8.	Dr. Simmons will recommend that Field Activities Committee employ ISO 17025 principles in development of standards.	January 2000

Attachment B

PARTICIPANTS
FIELD MEASUREMENTS *AD HOC* COMMITTEE MEETING
DECEMBER 14, 1999

Name	Affiliation	Address
Simmons, Barton Chair	CA EPA, Hazardous Materials Laboratory, DTSC	T: (510)540-3003 F: (510)540-2305 E: bsimmons@ix.netcom.com
Allen, Ann	MA Dept. of Env. Prot.	T: (978)682-5237 F: (978)688-0352 E: ann.marie.allen@state.ma.us
Bivins, Daniel	USEPA, Office of Air & Radiation	T: (919)541-5244 F: (919)541-1039 E: bivins.dan@epa.gov
Coats, Kevin (absent)	U.S. Army Corps of Engineers	T: (402)697-2555 F: (402)697-2595 E: kevin.h.coats@usace.army.mil
Cosgrove, Bill (absent)	USEPA/Region 4	T: (706)355-8616 F: (706)355-8744 E: cosgrove.bill@epamail.epa.gov
Darley, Robert	US Navy - NAVSEA Programs FO	T: (843)764-7337 F: (843)764-7360 E: darleyre@navsea.navy.mil
Fisk, Joan (absent)	USEPA/Off. Of Emer. & Remedial Response	T: (703)603-8791 F: (703)603-9104 E: fisk.joan@epamail.epa.gov
Glowacki, Clifford	CERP-AIGER	T: (916)643-0447 F: (916)643-0190 E: cglowacki@cerp.aiger.org
Hosenfeld, John	Midwest Research Institute	T: (816)753-7600 F: (816)531-0315 E: jhosenfeld@mriresearch.org
Keith, Larry	Waste Policy Institute	T: (540)557-6095 F: (540)557-6043 E: larry_keith@wpi.org
Moore, Marlene (absent)	Advanced Systems Inc.	T: (302)834-9796 F: (302)995-1086 E: mmoore@advancedsys.com
Nimmo, Wynand (absent)	AZ Dept Health Svcs	T: (602)255-3454 F: (602)255-3462 E: wnimmo@hs.state.az.us

PARTICIPANTS (CONTINUED)
FIELD MEASUREMENTS *AD HOC* COMMITTEE MEETING
DECEMBER 14, 1999

Petullo, Colleen (absent)	USEPA/ORIA-R41E	T: (702)798-2446 F: (702)395-8002 E: petullo.colleen@epa.gov
Tintle, Andrew	FL Dept. of Environmental Protection	T: (850)921-9733 F: (850)922-4614 E: tintle_a@dep.state.fl.us
Visneski, Michael (absent)	Eastman Chemical Company	T: (423)224-0983 F: (423)224-0199 E: visneski@eastman.com
Eaton, W. Cary (Contractor Support)	Research Triangle Institute	T: (919)541-6720 F: (919)541-7215 E: wce@rti.org